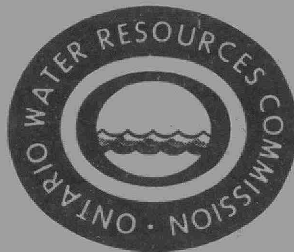


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*Water Pollution
Survey*

THE
ONTARIO WATER RESOURCES
COMMISSION

WATER POLLUTION SURVEY

of the

VILLAGE OF BEAVERTON

COUNTY OF ONTARIO

1971



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THE
ONTARIO WATER RESOURCES
COMMISSION
REPORT ON
WATER POLLUTION SURVEY
OF THE
VILLAGE OF BEAVERTON
IN THE
COUNTY OF ONTARIO
DIVISION OF SANITARY ENGINEERING
-1971-

WATER POLLUTION SURVEY

OF THE

VILLAGE OF BEAVERTON

<u>Index</u>	<u>Page No.</u>
Introduction	1
Recommendations of Previous Surveys and Action Taken	1
Municipal Sewage Works	2
Water Quality and Effluent Objectives	2
Sample Results	2
Summary	3
Recommendations	4
<u>Appendices</u>	
Map of the Village showing sampling point locations and sewage works	
Sample Results	
Water Quality and Effluent Objectives	

WATER POLLUTION SURVEY

OF THE

VILLAGE OF BEAVERTON

INTRODUCTION:

A water pollution survey of the Village of Beaverton was performed on November 16, 1970. A similar survey was performed on November 17 and 18, 1965. Surveys of this nature are performed by the Ontario Water Resources Commission for the purpose of locating existing and potential water pollution. Recommendations are then made regarding the abatement of these sources of pollution.

RECOMMENDATIONS OF PREVIOUS SURVEYS AND ACTION TAKEN:

The previous water pollution survey report in 1965 recommended the establishment of a sewage works in the Village of Beaverton. In the fall of 1969, the Beaverton Provincial Sewage Works was established.

It was also recommended that contaminated discharges be eliminated from the municipal storm sewers and private drains. It would appear that this has been complied with, where the sanitary sewers are available. This is evident by the reduced bacteriological counts in those areas.

Lake Simcoe Industries were previously asked to continue its efforts to provide a satisfactory treatment of its industrial wastes before discharge to the storm sewer. This recommendation was felt necessary due to high concentrations of chromium and cyanide in the respective storm sewer. This company, now known as

Seeburn Metal Products, has since connected to the sanitary sewer. However, a high concentration of cyanide was still noted in the storm sewer. This is presently under investigation by our Division of Industrial Wastes.

Another recommendation was that the Beaverton Specialties Company ensure that its waste do not adversely affect the quality of the water in the storm sewer. Now, only their rinse water discharges to the local storm sewer.

MUNICIPAL SEWAGE WORKS:

In the fall of 1969, the Beaverton Provincial Sewage Works was established. This consists of a collector system, a pumping station, a waste stabilization pond and a chlorination building. The waste stabilization pond comprises 4 cells having a total area of 28.8 acres. Presently, only the first phase of the collector system has been constructed. The second phase of the collector system is presently under design. A map of the Village of Beaverton and its collector system has been appended to this report.

WATER QUALITY AND EFFLUENT OBJECTIVES:

Information on the foregoing is provided in the appendix.

SAMPLE RESULTS:

A copy of the sample results are appended to this report. All the sample locations showed a reduction in coliform bacteria and B.O.D. except for the following:

B1.4-W-1 - This storm sewer drains John Street and flows into the Beaverton River. Extremely high coliform counts, B.O.D. and suspended solids were revealed. Presently John Street is unsewered. Fairly high cyanide concentrations were also revealed at this sampling point. This is now under investigation by our Division of Industrial Wastes.

B1.4-W-2 - This storm sewer drains North Street and flows to the Beaverton River. Extremely high coliform counts, B.O.D. and suspended solids were revealed at this sampling location. Presently this street is unsewered.

B0.7 P - This is a drain with a minimal flow discharging to the low lying area on the south side of Victoria Street. High coliform counts were present in this discharge. Victoria Street is unsewered at present.

B0.75 W - This storm sewer discharges at the foot of Main Street to the Beaverton River. High coliform counts were obtained from this discharge. This area is unsewered.

Samples of the Beaverton River indicate an improvement in the water quality since the last pollution survey. However, bacteriological results obtained from the Beaverton River by the CNR tracks were still fairly high.

SUMMARY:

A water pollution survey of the Village of Beaverton was performed on November 16, 1970. This survey indicates an improved

quality of water in most of the storm drains in the Village of Beaverton. This improvement is due to the installation of a sewage works and the first phase of a collector system. However, pollution has been indicated at the John Street, North Street, and Main Street sewers and at the private outfall on the south side of Victoria Avenue. With the forthcoming installation of the second phase of the collector system, it is apparent that the quality of water in these remaining drainage systems will improve.

RECOMMENDATIONS:

1. The second phase of the collector system should be installed as soon as possible.
2. The contaminated discharges from the storm sewers and private drains should be eliminated.

Prepared by:

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H. C. McNaughton,
Technician,
Division of Sanitary Engineering.

HCMcN:bm

Water Pollution Survey

Village of Beaverton

SAMPLING POINT NO	DESCRIPTION	5-DAY	SOLIDS			COLIFORMS PER 100 ML		DATE
		BOD	TOTAL	SUSP	DISS	TOTAL	FAECAL	
BO-U	BEAVERTON RIVER - OUTER END OF CHANNEL TO LAKE SIMCOE	3.4	330	43	287	790		NOVEMBER 18, 1965
		1.4	400	5	395	180		FEBRUARY 19, 1970
		.6	400	5	395	192		MARCH 12, 1970
		1.6	460	290	170	260		APRIL 9, 1970
		1.0	240	--	--	76		APRIL 30, 1970
		1.0	250	15	235	328		JUNE 5, 1970
		1.6	280	10	270	324		JULY 10, 1970
		1.6	240	5	235	390		AUGUST 7, 1970
		3.0	280	10	270	4,300		SEPTEMBER 4, 1970
		.4	280	5	275	256		SEPTEMBER 30, 1970
		--	--	--	--	420		NOVEMBER 5, 1970
		1.8	380	15	365	116	128	NOVEMBER 16, 1970
BO-2	BEAVERTON RIVER - CHANNEL AT SHORELINE	3.2	346	17	329	9,000		NOVEMBER 18, 1965
		2.5	380	5	375	184	96	NOVEMBER 16, 1970
BO-6	BEAVERTON RIVER AT CNR TRACKS	2.8	386	9	377	11,000		NOVEMBER 18, 1965
		2.0	350	5	345	1,200	188	NOVEMBER 16, 1970
BO-8	BEAVERTON RIVER AT HIGHWAY 12 BRIDGE	1.6	368	8	360	11,000		NOVEMBER 18, 1965
		1.8	360	5	355	228	112	NOVEMBER 16, 1970
BO-7-P	PRIVATE DRAIN DISCHARGE TO LOW-LYING AREA SOUTH SIDE OF VICTORIA AVENUE	62.0	584	52	532	40,000,000		NOVEMBER 18, 1965
		.4	480	5	475	15,800	15,500	NOVEMBER 16, 1970
BO-75-W	STORM SEWER DISCHARGE TO BEAVERTON RIVER AT FOOT OF MAIN STREET	2.4	736	11	725			NOVEMBER 18, 1965
		2.5	740	5	735	11,100	10,100	NOVEMBER 16, 1970
BO-8-W(NW)	STORM SEWER OUTFALL TO BEAVERTON RIVER AT HIGHWAY 12 BRIDGE SOUTH WEST SIDE	2.8	386	8	378	78,000		NOVEMBER 18, 1965
		1.0	420	5	415	<4	<4	NOVEMBER 16, 1970

Village of Beaverton

-2-

SAMPLING POINT NO	DESCRIPTION	5-DAY	SOLIDS			COLIFORMS PER 100 ML		DATE
		BOD	TOTAL	SUSP	DISS	TOTAL	FAECAL	
BO-8-N(SE)	STORM SEWER OUTFALL TO BEAVERTON RIVER AT	21.0	1,190	18	1,172	160,000		NOVEMBER 18, 1965
	HIGHWAY 12 BRIDGE - SOUTHEAST SIDE	2.5	510	10	500	192	32	NOVEMBER 16, 1970
B-1.4W-1	STORM SEWER OUTFALL TO BEAVERTON RIVER	14.0	278	37	241	5,000		NOVEMBER 18, 1965
	AT CORNER OF JOHN AND NORTH STREET - DRAINING	55.0	560	45	515	210,000	12,000	NOVEMBER 16, 1970
	JOHN STREET							
	NOV 18/65 - CHROMIUM - 0.22							
	CYANIDE - 2.9							
BL.4W-2	NOV 16/70 - CHROMIUM - 0.0							
	CYANIDE - 2.6							
BL.4W-2	STORM SEWER OUTFALL TO BEAVERTON RIVER	2.6	712	4	708	59,000		NOVEMBER 18, 1965
	AT CORNER OF JOHN AND NORTH STREET - DRAINING NORTH STREET	26.0	720	80	640	920,000	410,000	NOVEMBER 16, 1970

APPENDIX I

WATER QUALITY AND EFFLUENT OBJECTIVES

The OWRC objectives for surface waters is described in a booklet entitled "Guidelines and Criteria for Water Quality Management in Ontario". A copy of the booklet is enclosed in the pocket on the back cover of this report. This publication contains the guidelines and introduces water quality criteria for various uses including public, agricultural and industrial water supply, recreation, aesthetic enjoyment and the propagation of fish and wildlife. The guidelines should be followed to determine the acceptability of a watercourse for various uses.

A few pertinent maximum limits of contaminants in sewage treatment plant and industrial effluents are listed below. Adequate protection for surface waters except in certain specific instances influenced by local conditions, should be provided if the following concentrations are not exceeded.

5-Day BOD - not greater than 15 ppm

Suspended Solids - not greater than 15 ppm

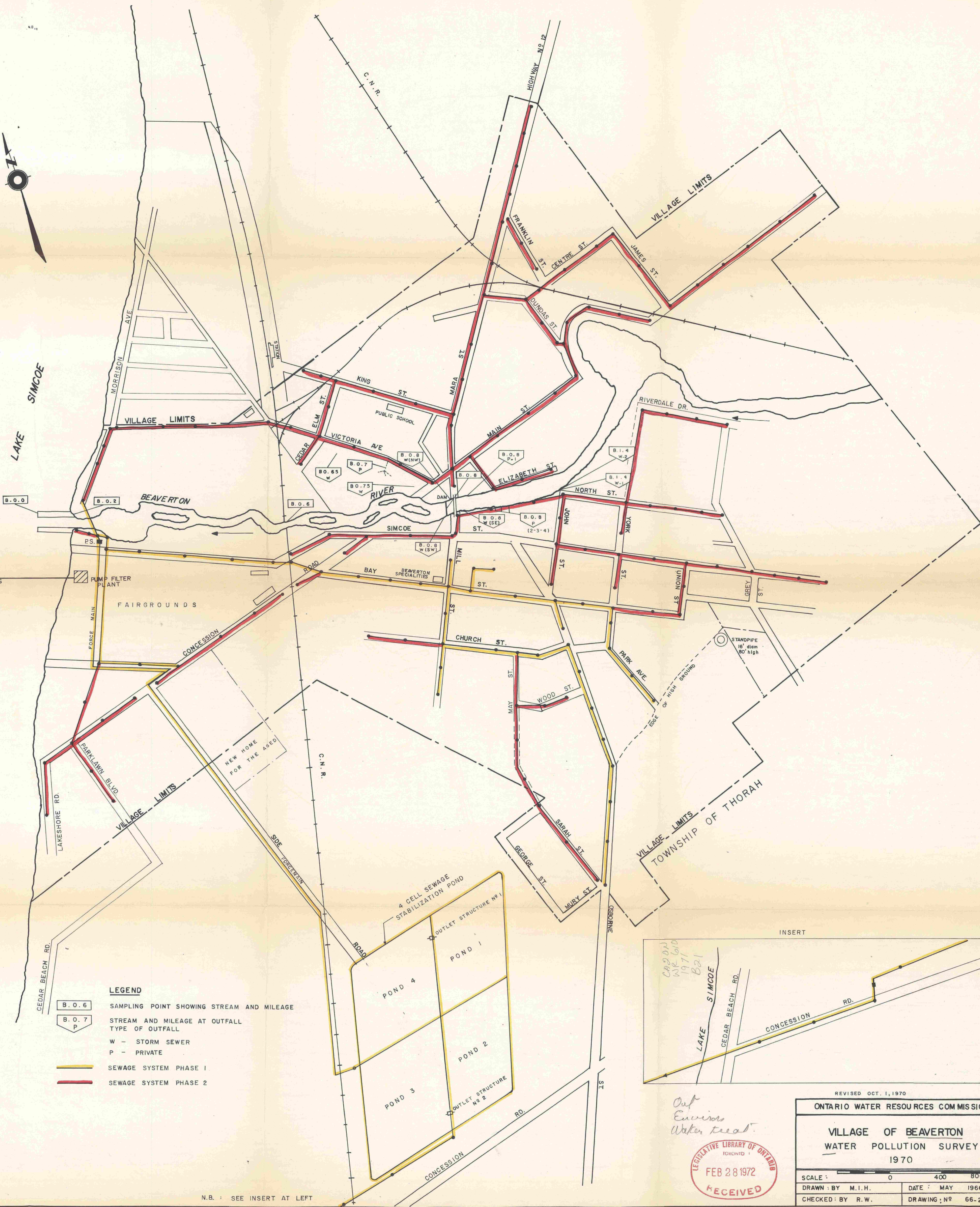
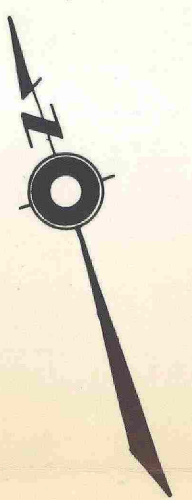
GLOSSARY OF TERMS

Bacteriological Examinations - The Membrane Filter Technique is used to obtain a direct count of coliform organisms. These organisms are the normal inhabitants of the intestines

of man and other warm-blooded animals and soils. They are always present in large numbers in untreated sewage and are, in general, relatively few in number in other stream pollutants. The fecal portion of the total coliforms originate only in the intestines of man and warm-blooded animals and indicate recent pollution.

Biochemical Oxygen Demand (BOD) - The biochemical oxygen demand test indicates the amount of oxygen required for stabilization of the decomposable organic matter found in sewage, sewage effluent, polluted waters, or industrial wastes, by aerobic biochemical action.

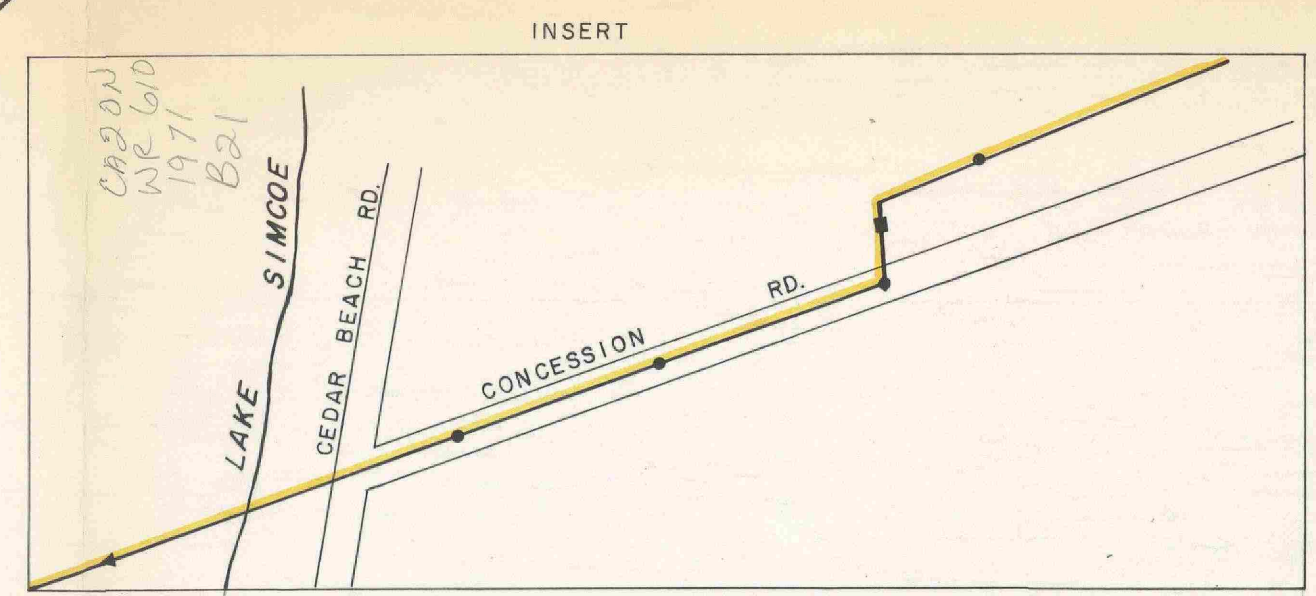
Solids - The analyses for solids include tests for total, suspended and dissolved solids. The total solids is a measure of the solids in solution and in suspension. Suspended solids indicate the measure of undissolved solids or organic or inorganic nature whereas the dissolved solids are a measure of those solids in solution.



INTAKE PIPE 1200' OF 12" C.I. WITH NATIONAL JOINTS

- LEGEND**
- B.O. 6 SAMPLING POINT SHOWING STREAM AND MILEAGE
 - B.O. 7 STREAM AND MILEAGE AT OUTFALL
 - P TYPE OF OUTFALL
 - W - STORM SEWER
 - P - PRIVATE
 - SEWAGE SYSTEM PHASE 1
 - SEWAGE SYSTEM PHASE 2

N.B. : SEE INSERT AT LEFT



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ONTARIO WATER RESOURCES COMMISSION

VILLAGE OF BEAVERTON
WATER POLLUTION SURVEY
1970

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CHECKED : BY R.W.	DRAWING : N° 66-28



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